



No. AAI/RHQ-SR/ED-II/PS/WO-05/2024-25/42

Date: 20.11.2024

**M/s. Chennai Engineering Services,
Plot No.30, Door No.1-536.
Krishna Nagar, 1st Street,
Manapakkam,
Chennai-600 125.**

NAME OF WORK: Augmentation of Power Supply System at ATS Complex and ASR/MSSR by replacing DG sets and LT panels at Southern Region, Chennai Airport. SH: Replacement of DG Sets, LT Panels and Associated Works.

Ref: 1. AAI Tender ID : 2024_AAI_ 209363_1
2. e - Tender (Price Bid) : Opened on 04.11.2024

Dear Sir,

1. Your tender for the work mentioned above is hereby accepted by the Competent Authority on behalf of Chairman, Airports Authority of India, at the item rates quoted by you totaling to **Rs.5,33,38,000/-** (Rupees Five Crores Thirty Three Lakhs and Thirty Eight Thousand Only) Plus applicable GST which is 20.15% below the justified cost of **Rs.6,67,98,098/-** Plus applicable GST, which will be paid extra as per actual.
2. Senior Manager (Engg-E), ED - II, AAI, RHQ-SR, Chennai Airport, Chennai shall be the Engineer-In-Charge of the work. You are requested to attend to the Office of Senior Manager (Engg-E), ED - II, AAI, RHQ- SR, Chennai Airport, Chennai by **29.11.2024** to sign and complete the Contract Agreement. The Contract Agreement shall be executed on a non-judicial stamp paper of value Rs. 100/- (Rupees One Hundred only) and the cost of the stamp paper shall be borne by you.
3. Please deposit **Rs.53,33,800/-** (Rupees Fifty Three Lakhs Thirty Three Thousand and Eight Hundred only) towards Security Deposit within 10 days from the date of issue of this letter, failing which, the same will be deducted from your running bills as per the Clause of 1-A of Clauses of Contract.
4. You are requested to comply with the provision of Contract Labour (Regulation and Abolition) Act 1970 and Contract Labour (Regulation and Abolition) Central Rules 1971 and Minimum Wages Act and Rules there of Central and State Government.
5. You are also directed to contact Senior Manager (E-E), ED - II AAI, SR, New Operational Office, RHQ-SR, Chennai Airport Chennai or his authorised representatives immediately who will arrange to hand over the site to you.

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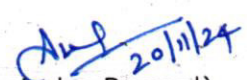
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6. Please note that the time allowed for carrying out the work shall be 06 (Six) months and the same shall be reckoned with effect from **29.11.2024**.
7. Any further correspondence in connection with the contract should normally be addressed to the Senior Manager (E-E), ED - II, AAI, New Operational Office, RHQ-Southern Region, Chennai Airport, Chennai 600 016.
8. On completion of work / at the time of raising invoice for RA bills, you are requested to clearly indicate AAI GST No. 33AAACA6412D1ZF in your tax invoice.
9. Please acknowledge the receipt and return the duplicate copy of this letter enclosed herewith after signing it to the undersigned as a token of acceptance.

Thanking you,

Encl: 1) Schedule of Quantity.
2) E-Sahaj Proforma to be followed for obtaining Airport Entry permit

Yours faithfully,


(A. Narasimha Prasad)
Senior Manager (E-E)
AAI, RHQ-SR, Chennai Airport.



AIRPORTS AUTHORITY OF INDIA
RHQ - SOUTHERN REGION
CHENNAI - 600 016
SCHEDULE OF WORK

Schedule - A

Name of Work : Augmentation of Power Supply System at ATS Complex and ASR / MSSR by replacing DG sets and LT Panels at Chennai Airport, Southern Region, Chennai. SH: Replacement of DG Sets, LT panels and Associated works.

SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
1	SH-I: Supply of Substation Equipments				
1.01	Supply of 750 KVA Prime Duty DG Set comprising of following (Location: GF - ATS Substation):				
1.02	01 No. Alternator suitable for generating 600 KW/750 KVA at 415 V, 3 Phase, 50 Hz, 0.8 PF, 1500 RPM, Self Ventilated, Self Regulated and Self Excited with Brushless Type conforming to IS 4722 with suitable size cable termination box including provision of suitable size and length control cable for alternator scanner etc. as specified and as required.				
1.03	01 No. Multi Cylinder, 4 Stroke, Turbo Charged Diesel Engine developing suitable BHP at 1500 RPM suitable for above Alternator and Complete with all accessories such as Base Frame, AVM Pads, Batteries 2 Nos. [12 Volts, 25 Plates 180 AH], All Types of Filters, Coupling, Starter, Residential Silencer, Lightning arrestor spike with 20 x 3 mm GI tape up to DG set foundation, Automatic Electronic Speed Governing Mechanism, Compact Radiator etc. and conforming to relevant IS with up to date amendments including provision of suitable size and length control cable for engine control panel and battery charger as specified and as required.				
1.04	1 No. Daily Service Fuel Tank of Capacity 990 Liters., fabricated out of 3 mm thick M.S sheet complete with all standard accessories and fuel piping between fuel tank and diesel engine with MS class 'C' pipes of suitable dia. complete with valves, level indications and accessories as required as per specification.				
1.05	Customised Compact Modular Type Tested Acoustic Enclosure suitable for the above DG Set to limit the Noise Level to 75 dB (A) at a distance of 1 Mtr., from the Enclosure, made out of CRCA sheet of 1.6 mm thickness for the Outside Cover and Doors and for Inside Cover with 0.8 mm thick perforated GI Sheet, Louvers of thickness 1.6 mm CRCA Sheet for Fresh Air and Hot Air, Powder coated after Seven Tank Process, Neoprene Rubber Gasket and heavy duty SS locks with SS Hinges, Acoustic made up of high quality rock wool/glass wool/mineral wool as per OEM design, Base Frame of suitable Size Channel, provision to accommodate Batteries, Support for Silencers, provided with 4 Nos. LED Tube light Fittings of 2 feet and Switches as required.				

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SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
1.06	Exhaust gas piping for above DG of suitable dia. welded black MS, B class pipe confirming to IS:3589 cut to required lengths and installed with necessary bends, clamps, bellows, residential silencer, insulation of exhaust system with mineral wool/Rockwool 50 mm thick, wire mesh & aluminium cladding of minimum thickness of 0.6 mm, Required size lattice type MS supporting structure with suitable foundation etc., as required as per specifications and as per relevant CPCB Norms.				
1.07	G.S.S square/rectangular duct for dissipation of hot air to outside for above DG set made out of GI sheet thickness as specified in technical specification complete with gaskets, elbows, splitters, vanes, MS angle iron supports with threaded rod hanging arrangement etc. as per specifications to meet site requirement etc. as required.				
1.08	DG set Shall comply to CPCB IV + Emission Norms Compliance to Revised Emission Standards dated 03.11.2022 and upto date amendments. Performing 13 Hrs Load test for the DG set at factory arranged with suitable load equipment at the time of predelivery inspection along with other routine tests as mentioned in the DG set specifications.				
1.09	ALL AS ABOVE 1.01 To 1.08				
2	Non Essential Panel at ATS Substation - First Floor	2.00	Job	7199999.00	14399998.00
2.01	Design, Fabrication and supply of cubical type LT Panel - type tested design as per IEC 61439-1 & 2 suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 1.6 mm thick CRCA sheet steel/GI Sheet for frame work, doors and covers, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 4b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 4000 Amps capacity FP Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 65 KA for 1Sec., bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 50 mm x 5 mm at the rear with 2 nos. earth stud, 20% spare space of outgoing in Panel, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5 Sq.mm. FRLS PVC insulated copper conductor cable, cable alleys, cable gland plates suitable for indoor operation, complete with all accessories, connection, interconnection, earthing, alignment with the bus ducts etc., as required and comprising of following switch gears: (Non Essential Panel at ATS Substation)				
2.02	Incoming				

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SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
2.03	Two No. 3200 A, 50KA (Ics=Icu), Four Pole, EDO type Moulded case design ACB as INCOMER conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 230 V AC, Auxilary power unit, LED Phase Indication Lamps alongwith control MCBs as backup protection, Breaker ON/OFF/TRIP/Spring Charge LED indicating lamps alongwith control MCBs as per standard practice, Mechanical/ Electrical Interlocking arrangement between the incomers & bus coupler alongwith interlocking relays, mechanical lock & keys etc. i/c Control MCBs, control terminals & wirings as required.				
2.04	Outgoing:				
2.05	a) Two Nos. 1600 A, 50KA (Ics=Icu), Four Pole, EDO type moulded case design ACB as OUTGOING conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 220 V AC, Auxilary power unit, Breaker ON/ OFF/ TRIP/ Spring Charge LED indicating lamps alongwith control MCBs as per standard practice etc. i/c Control MCBs, control terminals & wirings etc. as required.				
2.06	b) Six Nos. 800 A, 50KA (Ics=Icu), Four Pole, EDO type moulded case design ACB as OUTGOING conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 220 V AC, Auxilary power unit, Breaker ON/ OFF/ TRIP/ Spring Charge LED indicating lamps alongwith control MCBs as per standard practice etc. i/c Control MCBs, control terminals & wirings etc. as required.				
2.07	c) Ten Nos. 630 A, 50KA (Ics=Icu), Four Pole, EDO type moulded case design ACB as OUTGOING conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 230 V AC, Auxilary power unit, Breaker ON/ OFF/ TRIP/ Spring Charge LED indicating lamps alongwith control MCBs as per standard practice etc. i/c Control MCBs, control terminals & wirings etc. as required.				

SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
2.08	d) Two Nos. 400 A, 36 KA, Four Pole MCCB (Ics=Icu) with inbuilt O/L, S/C and Earth fault Protection with microprocessor based release and provided with three nos. Cast resin of suitable rating CTs with digital Multifunction Meter having RS 485 port, ON/OFF/TRIP LED indication lamp along with control MCBs etc, as required.				
2.09	e) Four Nos. 250 A, 36 KA, Four Pole MCCB (Ics=Icu) with inbuilt O/L, S/C and Earth fault Protection with microprocessor based release and provided with three nos. Cast resin of suitable rating CTs with digital Multifunction Meter having RS 485 port, ON/OFF/TRIP LED indication lamp along with control MCBs etc, as required.				
2.10	Bus Couplers:-				
2.11	One No. 3200 Amps each Four Pole horizontal drawout EDO type Modular Air circuit breaker of fault breaking capacity 50 KA (Ics=Icu) fitted with in built metering, interlocked door, automatic safety shutter, Mechanical ON/OFF and service/test/isolation position indicators and frame earthing contact, conforming to IEC 60947-2:2003 as ammended up-to- date, Breaker ON/ OFF/ TRIP/ Spring Charge LED indicating lamps alongwith control MCBs as per standard practice including suitable size Adopter Chamber in the first part of panel to attach with the second part etc., as required.				
2.12	Bus Bar:				
2.13	One Set of Four Pole Aluminium Bus Bars of minimum of 4000 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section supports & their spacing etc. for meeting fault level of 50 KA for 1 Sec coper earth strip etc, as required.				
2.14	Interlocking: Electrical interlocking through advance contacts in ACB's (incommer & Bus coupler) and mechanical interlocking should be to ensure that only one supply is available at a time on each section of bus and to eliminate any possibility of accidently approaching two supply at one bus section.				
2.15	All as above from 2.01 to 2.14	1.00	Job	8099999.00	8099999.00
3.00	Essential Panel at ATS Substation - First Floor				

Ans

SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
3.01	Design, Fabrication and supply of cubical type LT Panel - type tested design as per IEC 61439-1 & 2 suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 1.6 mm thick CRCA sheet steel/GI Sheet for frame work, doors and covers, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 4b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 2000 Amps capacity FP Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 50 mm x 5 mm at the rear with 2 nos earth stud, 20% spare space of outgoing in Panel, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5 Sq.mm. FRLS PVC insulated copper conductor cable, cable alleys, cable gland plates suitable for indoor operation, complete with all accessories, connection, interconnection, earthing, alignment with the bus ducts etc., as required and comprising of following switch gears: (Essential Panel ATS Substation)				
3.02	Incoming				
3.03	Two No. 1600 A, 50KA (Ics=Icu), Four Pole, EDO type Moulded case design ACB as INCOMER conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 230 V AC, Auxilary power unit, LED Phase Indication Lamps alongwith control MCBs as backup protection, Breaker ON/OFF/TRIP/Spring Charge LED indicating lamps alongwith control MCBs as per standard practice, Mechanical/ Electrical Interlocking arrangement between the incomers & bus coupler alongwith interlocking relays, mechanical lock & keys etc. i/c Control MCBs, control terminals & wirings as required.				
3.04	Outgoing:-				
3.05	a) Two No. 800 A, 50KA (Ics=Icu), Four Pole, EDO type moulded case design ACB as OUTGOING conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 230 V AC, Auxilary power unit, Breaker ON/ OFF/ TRIP/ Spring Charge LED indicating lamps alongwith control MCBs as per standard practice etc. i/c Control MCBs, control terminals & wirings etc. as required.				



SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
3.06	b) Four Nos. 630 A, 50KA (Ics=Icu), Four Pole, EDO type moulded case design ACB as OUTGOING conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 230 V AC, Auxilary power unit, Breaker ON/ OFF/ TRIP/ Spring Charge LED indicating lamps alongwith control MCBs as per standard practice etc. i/c Control MCBs, control terminals & wirings etc. as required.				
3.07	c) Two Nos. 400 A, 36 KA, Four Pole MCCB (Ics=Icu) with inbuilt O/L, S/C and Earth fault Protection with microprocessor based release and provided with three nos. Cast resin of suitable rating CTs with digital Multifunction Meter having RS 485 port, ON/OFF/TRIP LED indication lamp along with control MCBs etc, as required.				
3.08	d) Sixteen Nos. 250 A, 36 KA, Four Pole MCCB (Ics=Icu) with inbuilt O/L, S/C and Earth fault Protection with microprocessor based release and provided with three nos. Cast resin of suitable rating CTs with digital Multifunction Meter having RS 485 port, ON/OFF/TRIP LED indication lamp along with control MCBs etc, as required.				
3.09	Bus Couplers:-				
3.10	One No 1600 Amps each Four Pole horizontal drawout EDO type Modular Air circuit breaker of fault breaking capacity 50 KA (Ics=Icu) fitted with in built metering, interlocked door, automatic safety shutter, Mechanical ON/OFF and service/test/isolation position indicators and frame earthing contact, conforming to IEC 60947-2:2003 as ammended up-to- date, Breaker ON/ OFF/ TRIP/ Spring Charge LED indicating lights alongwith control MCBs as per standard practice including suitable size Adopter Chamber in the first part to attach with the second part etc., as required.				
3.11	Bus Bar:				
3.12	One Set of FP Aluminium Bus Bars of minimum of 2000 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section supports & their spacing etc. for meeting fault level of 50 KA for 1 Sec with adequate size aluminium busbar for interconnection of incomer and outgoing switchgears and 50x5mm coper earth strip etc, as required.				
3.13	Interlocking: Electrical interlocking through advance contacts in ACB's (incommer & Bus coupler) and mechanical interlocking should be to ensure that only one supply is available at a time on each section of bus and to eliminate any possibility of accidently approaching two supply at one bus section.				
3.14	All as above from 3.01 to 3.13	1.00	Job	4199999.00	4199999.00

Ans

SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
4.00	AMF LT Panel at ATS Substation - First Floor				
4.01	Design, Fabrication and supply of cubical type LT Panel - type tested design as per IEC 61439-1 & 2 suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 1.6 mm thick CRCA sheet steel/GI Sheet for frame work, doors and covers, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 4b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 2000 Amps capacity FP Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 50 mm x 5 mm at the rear with 2 nos earth stud, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5 Sq.mm. FRLS PVC insulated copper conductor cable, cable alleys, cable gland plates suitable for indoor operation, complete with all accessories, connection, interconnection, earthing, alignment with the bus ducts etc., as required and comprising of following switch gears: (AMF LT Panel at ATS Substation)				
4.02	One No. 1600 A, 50KA (Ics=Icu), Four Pole, EDO type Moulded case design ACB as EB Incomer conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 230 V AC, Auxilary power unit, LED Phase Indication Lamps alongwith 2 Amps control MCBs as backup protection, Breaker ON/OFF/TRIP/Spring Charge LED indicating lamps alongwith control MCBs as per standard practice, Electrical Interlocking arrangement between the EB & DG Incomers alongwith interlocking relays etc. i/c Control MCBs, control terminals & wirings as required.				
4.03	One No. 1600 A, 50KA (Ics=Icu), Four Pole, EDO type Molded case design ACB as DG Incomer, conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering ; Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display,% loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 220 V AC, Auxilary power unit, LED Phase Indication Lamps alongwith 2 Amps control MCBs as backup protection, breaker ON/OFF/TRIP/Spring Charge LED indicating lamps alongwith control MCBs.as per standard practice, Electrical Interlocking arrangement between the EB & DG Incomers alongwith interlocking relays etc. i/c Control MCBs, control terminals & wirings, as required.				
4.04	Two Nos. 1600 A, 4P On Load Change Over Switch each one for above ACBs for Bye-pass arrangement with bus bar/link arrangements and LED lamps for indicating position of Change Over Switch [AMF/BYPASS/OFF]				



SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
4.05	24 V Battery Charger consisting of transformer, rectifier, DC Ammeter, DC Volt Meter and charge rate selector switch with position ON/ Trickle/ OFF/ Boost for charging of 24 Volts lead acid battery (2 Nos. each of 12 volts, 25 plates 180 AH in two steps i.e. trickle/boost charging [excluding Batteries]), Rheostat etc. as required.				
4.06	One No. 8 Display Temperature Scanner for BTM and RTD				
4.07	One Set of Timers and contactors/AMF Relay for Start with condition to take the load with in 15 Sec. in 3 Attempts/ Stop/ Delay time of DG Set with Selector Switch for Time Delay, Contactors for Auto/ Manual/ Interlock/Time Delay and Engine protection PCB & accessories etc. as required.				
4.08	One Set of Selector Switch for Auto/Manual/Test/Off Operation etc.				
4.09	One Set of LVM				
4.10	One Set of Push Button for Start/Stop/Reset etc.				
4.11	One Set of LED Display for Performance of DG Set				
4.12	One Hooter to alarm the abnormality of DG Set and Annunciation Windows for Performance and Operation of DG Set etc.				
4.13	One Set of Contactors for Auto/ Manual/ Interlock/ Time Delay Operation				
4.14	One Set of AMF Module and Engine Protection PCB and Accessories.				
4.15	One Set of 2000 Amps Al. Bus Bar for 3 Phases and Neutral				
4.16	All accessories such as fuses, auxillary contactors, auxillary switches, etc. as required.				
4.17	All as above from 4.01 to 4.16				
5.00	Hybrid RTPFC Panel - First Floor	2.00	Job	1324999.00	2649998.00
5.01	Design, Fabrication, Supply of cubical type Hybrid RTPFC panel to meet the requirement as detailed in the technical specifications suitable for 415 V, 3 phase, 4 wire 50 Hz AC supply, made out of 1.6 mm thick CRCA sheet steel/GI Sheet for frame work, doors and covers, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 1000 Amps capacity FP Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 50 mm x 5 mm at the rear with 2 nos earth stud, connections from main bus bars to switch gears with required size of multistrand copper conductor FRLS PVC insulated cables and control wiring with 2.5 Sq.mm. FRLS PVC insulated copper conductor cable, cable alleys, cable gland plates suitable for indoor operation, complete with all accessories, connection, interconnection, earthing etc., as required and comprising of following switch gears: (IGBT BASED HYBRID APFC PANEL (300A AHF+ 200KVAR RTPFC)				

(102)

SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
5.02	Incoming Switch				
5.03	One No. 800 A, 50KA (Ics=Icu), Four Pole, EDO type Moulded case design ACB as INCOMER conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate set of suitable rated Cast Resin CTs for metering and switching/sensing of AHF unit and capacitor units, Digital Multifunction Meter having RS 485 port, shunt trip coil 230 V AC, Auxiliary power unit, LED Phase Indication Lamps alongwith control MCBs as backup protection, Breaker ON/OFF/TRIP/Spring Charge LED indicating lamps alongwith control MCBs as per standard practice i/c control terminals & wirings as required.				
5.04	Outgoing Active Filter Part				
5.05	Two Nos. 150 A Active Harmonic Filter compartment consist of 250 A, 36 KA, Four Pole MCCB (Ics=Icu) with inbuilt O/L and S/C fault Protection with microprocessor based release and provided with three nos. Cast resin of suitable rating CTs with digital Multifunction Meter having RS 485 port, ON/OFF/TRIP LED indication lamp along with control MCBs, 150 A AHF module (Power Stack) with suitable rating AC3 duty contactor, 7 Inch LCD Touch Screen with communication port (HMI) for all Parameters Related to IGBT Based System, control MCBs, Sensor board, DSP and Interface PCBs, Auto /Manual selector switch, ON/OFF selector Switch etc, as required.				
5.06	The switching device of the active compensation system shall be IGBT based. The active compensation system should filter harmonics from 2nd to 51th individual harmonic order and shall be selectable for the entire range. The active compensation system should have feature to improve PF correction as well. The active compensation system should have a Multi master operation. Response time shall be 100 micro Sec or less.				
5.07	i) The LCD should display all parameters like Currents, Fundamental Current, iTHD, iTDD, Aunb, Voltages, vTHD, kW, kVA, PF, dPF, Filter Current, Filter Loading (%), Stack Temperature, Ambient Temperature, Filter Runtime, System Runtime etc and also have the provision of a proper fault log which can be exported to an external storage device. ii) LCD interface should be able to log >2,00,000 time stamped events and faults in memory. iii) LCD should be capable of displaying individual harmonics for currents and voltages upto 51st order. iv) LCD should be capable of simultaneously displaying current and voltage waveforms. v) User should be able to select the phases to display.				
5.08	Outgoing Detuned Capacitor Bank Part				
5.09	One No. 100 KVAR detuned APFC compartment consist of 250 A, 36 KA, TP MCCB (Ics=Icu) with inbuilt O/L and S/C fault Protection with microprocessor based release, ON/OFF/TRIP LED indication lamp along with control MCBs, 100KVAR, 415V (132.4KVAR-525V), TP, MPP type, heavy duty Power Capacitor with suitable rating capacitor duty contactor, 100KVAR, 415V, TP, 7% Detuned Reactor, ON/OFF LED indication lamps, Start/Stop push buttons, control MCBs etc, as required.				



SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
5.10	One No. 50 KVAR detuned APFC compartment consist of 125 A, 36 KA, TP MCCB (Ics=Icu) with inbuilt O/L and S/C fault Protection with microprocessor based release, ON/OFF/TRIP LED indication lamp along with control MCBs, 50KVAR, 415V (66.2KVAR-525V), TP, MPP type, heavy duty Power Capacitor with suitable rating capacitor duty contactor, 50KVAR, 415V, TP, 7% Detuned Reactor, ON/OFF LED indication lamps, Start/Stop push buttons, control MCBs etc, as required.				
5.11	Two Nos. 25 KVAR detuned APFC compartment consist of 63 A, 36 KA, TP MCCB (Ics=Icu) with inbuilt O/L and S/C fault Protection with microprocessor based release, ON/OFF/TRIP LED indication lamp along with control MCBs, 25KVAR, 415V (33.1KVAR-525V), TP, MPP type, heavy duty Power Capacitor with suitable rating capacitor duty contactor, 25KVAR, 415V, TP, 7% Detuned Reactor, ON/OFF LED indication lamps, Start/Stop push buttons, control MCBs etc, as required.				
5.12	All AHF and Detuned RTPFC compartment provided with Illumination Lamp, Door Limit switch, fresh air louvers with filters, Exhaust Fan etc as required.				
5.13	Incoming compartment provided with Illumination Lamp, Door Limit switch, Space Heater, Thermostat, etc as required.				
5.14	Busbar:				
5.15	One Set of FP Aluminium Bus Bars of minimum of 1000 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section supports & their spacing etc. for meeting fault level of 50 KA for 1 Sec with adequate size flexible copper conductor pvc insulated FRLS cable for interconnection of incomer and outgoing switchgears and 50x5mm coper earth strip etc, as required.				
5.16	All accessories such as 3 CT sensing APFC Relay, auxiliary contactors, auxiliary switches, Auto/Manual selector swithes, ON/OFF push buttons, Hhase and ON & OFF Indication lamps, control MCBs, rotary handles, phase seperators, spreaders etc., as required.				
5.17	All as above from 5.01 to 5.16	2.00	Job	1599999.00	3199998.00
6.00	DG Isolation Panel				

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SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
6.01	Design, Fabrication and supply of cubical type LT Panel suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 1.6 mm thick CRCA sheet steel/GI Sheet for frame work, doors and covers, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, floor mounting, free standing, i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 2000 Amps capacity FP Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., panel shall have a common copper earth bar of size 50 mm x 5 mm at the rear with 2 nos. earth stud, suitable size cable termination box on incomer side & suitable size adaptor box for termination of bus duct in outgoing side, provision of suitable size 2000A Aluminium bus bars for termination of cable and bus duct, provision of suitable mounting arrangement made out of MS C channel for installation of panel and control wiring with 2.5 Sq.mm. FRLS PVC insulated copper conductor cable, cable gland plates suitable for indoor operation, complete with all accessories, connection, interconnection, earthing, alignment with the bus ducts etc., as required and comprising of following switch gears:				
6.02	1 No. 1600 A, 50KA (Ics=Icu), Four Pole, EDO type Moulded case design ACB along with suitable enclosure conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 230 V AC, Auxilary power unit, LED Phase Indication Lamps alongwith control MCBs as backup protection, Breaker ON/OFF/TRIP/Spring Charge LED indicating lamps alongwith control MCBs as per standard practice, etc. i/c Control MCBs, control terminals & wirings as required.				
6.03	All as above from 6.00 to 6.02	2.00	Job	349999.00	699998.00
7.00	AC Chiller Feeder Panel				
7.01	Design, Fabrication and supply of cubical type LT Panel suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 1.6 mm thick CRCA sheet steel/GI Sheet for frame work, doors and covers, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, floor mounting, free standing, i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 1000 Amps capacity FP Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., panel shall have a common copper earth bar of size 50 mm x 5 mm at the rear with 2 nos. earth stud, suitable size cable termination box on both side of panel for termination of LT cables, provision of suitable size 1000A Aluminium bus bars for termination of cables, provision of suitable mounting arrangement made out of MS C channel for installation of panel and control wiring with 2.5 Sq.mm. FRLS PVC insulated copper conductor cable, cable gland plates suitable for indoor operation, complete with all accessories, connection, interconnection, earthing, alignment with the bus ducts etc., as required and comprising of following switch gears:				



SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
7.02	1 No. 800 A, 50 KA Four Pole On Load Change Over Switch with suitable Aluminium Bus Links for both at Inputs & Out put, LED Phase Indication Lamps alongwith control MCBs as backup protection, including Providing ON/OFF LED indication lamp along with control MCBs, control terminals & wirings etc. as required.				
7.03	1 No. 630 A, 50KA (Ics=Icu), Four Pole, EDO type moulded case design ACB as OUTGOING conforming to IEC 60947-2:2003 as ammended up-to- date with LCD display, inbuilt Metering, Overcurrent, Short circuit & Earth fault Protection with variable current & time delay setting, Instantaneous protection, current demand & phase to neutral voltage on display, % loading of each phases on LED/LCD bar graphs, with Microprocessor Based Releases and provided with separate suitable rated Cast Resin CTs with Digital Multifunction Meter having RS 485 port, shunt trip coil 230 V AC, Auxilary power unit, LED Phase Indication Lamps alongwith control MCBs as backup protection, Breaker ON/ OFF/ TRIP/ Spring Charge LED indicating lamps alongwith control MCBs as per standard practice etc. i/c Control MCBs, control terminals & wirings etc. as required.				
7.04	All as above from 7.01 to 7.03	3.00	Job	499999.00	1499997.00
8.00	Fabrication and Supply of 3200 Amps, 65 KA for 1 sec, Indoor IP 54 Sandwich Type Bus Trucking complying to IEC 61439-1 & 6 (Interconnection from Outdoor Transformer to Nonessential LT Panel), for use on 3 Phase 4 Wire, 415 Volts, 50 Hz AC supply with metal clad enclosure made of 1.6mm thick GI Sheet duly powder coated in convenient sections complete with 4 Nos. of Aluminium Bus Bars with Class F Insulation, necessary joints, elbow joints, expansion joints and bends, offsets, adopter box and Copper Flexible for Joints, external Aluminium earth strip 50x6mm, aluminium interconnection busbars, threaded rod for suspenders, angle iron bracket, fasteners, nuts and bolts, connecting to existing earthing system etc. complete as required. Note : Bus Trucking Shall be measured along the length of enclosure of Straigh Run/T Section/Bend. The aluminum strips which will go inside L.T Panels & end termination boxes of transformers shall not be taken in to measurement of bus truncking quantity.				
8.01	Straight Run Bus Duct with IP-66 for outdoor operation	8.00	Meter	22999.00	183992.00
8.02	Straight Run Bus Duct with IP-54 for indoor operation	8.00	Meter	21999.00	175992.00
8.03	End Flange (500 mm) with IP-66 i/c Making Cost	2.00	Nos.	22999.00	45998.00
8.04	End Flange (500 mm) with IP-54 i/c Making Cost	2.00	Nos.	22999.00	45998.00
8.05	90 Degree Bend (500 mm x 500 mm) with IP-66 i/c Making Cost	2.00	Nos.	17999.00	35998.00
8.06	90 Degree Bend (500 mm x 500 mm) with IP-54 i/c Making Cost	4.00	Nos.	14999.00	59996.00
8.07	Horizontal Offset /Vertical Offset / Combination Elbow / T Elbow (500 mm x 500 mm x 500 mm) i/c Making Cost	2.00	No.	29999.00	59998.00
8.08	Phase Cross Over (1500 mm) i/c Making Cost	1.00	No.	44999.00	44999.00
8.09	Adopter Box	4.00	Nos.	7999.00	31996.00
8.10	Tinned Copper Braided Flexibles for End Termination	4.00	Set	70999.00	283996.00

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SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
9.00	Fabrication and Supply of 1600 Amps, 50 KA for 1 sec, Indoor IP 54 Sandwich Type Bus Trucking complying to IEC 61439-1 & 6 (Interconnection from DG Set to AMF Panel, NE LT Panel to AMF Panel & AMF Panel to Essential LT Panel), for use on 3 Phase 4 Wire, 415 Volts, 50 Hz AC supply with metal clad enclosure made of 1.6mm thick GI Sheet duly powder coated in convenient sections complete with 4 Nos. of Aluminium Bus Bars with Class F Insulation, necessary joints, elbow joints, expansion joints and bends, offsets, adopter box and Copper Flexible for Joints, external Aluminium earth strip 50x6mm, aluminium interconnection busbars, threaded rod for suspenders, angle iron bracket, fasteners, nuts and bolts, connecting to existing earthing system etc. complete as required. Note : Bus Trunking Shall be measured along the length of enclosure of Straigh Run/T Section/Bend. The aluminum strips which will go inside L.T Panels & end termination boxes of transformers shall not be taken in to measurement of bus trunking quantity.				
9.01	Straight Run Bus Duct	130.00	Meter	12999.00	16,89,870.00
9.02	End Flange (500 mm) i/c Making Cost	16.00	Nos.	6999.00	1,11,984.00
9.03	90 Degree Bend (500 mm x 500 mm) i/c Making Cost	38.00	Nos.	2999.00	1,13,962.00
9.04	Horizontal Offset /Vertical Offset / Combination Elbow / T Elbow (500 mm x 500 mm x 500 mm) i/c Making Cost	6.00	Nos.	6999.00	41,994.00
9.05	Phase Cross Over (1500 mm) i/c Making Cost	4.00	Nos.	18999.00	75,996.00
9.06	Adopter Box	16.00	Nos.	5999.00	95,984.00
9.07	Tinned Copper Braided Flexibles for End Termination	16.00	Set	27999.00	4,47,984.00
10.00	Supply of Equipment Level Protection (ELP) power filter for surge protection having 240KA 3 phase Surge protection device against the protection from Noises, ESD, EPR and abnormal electrical characteristics which enter from power and other service lines and ensuring clear bonding potential (earth to Neutral voltage) less than 1.0V to be connected in parallel to the circuit Confirming to CE, tested and certified as per latest certification (IEC-6164 3-1, IEC-61000-4-5, IEC-61000-6-1, IEC61000-6-3 and tested lightning impulse current withstand test with counter record of minimum 35KA 8/20 m sec in Govt lab) in Pre-wired metal enclosure with pulverulent body painting including all accessories as per the specifications. Make: Tercel / Ground.	9.00	Job	214999.00	19,34,991.00
11.00	Supply of Equipment Level Protection (ELP) power filter for surge protection having 480 KA 3 phase Surge protection device against the protection from Noises, ESD, EPR and abnormal electrical characteristics which enter from power and other service lines and ensuring clear bonding potential (earth to Neutral voltage) less than 1.0V to be connected in parallel to the circuit Confirming to CE, tested and certified as per latest certification (IEC-6164 3-1, IEC-61000-4-5, IEC-61000-6-1, IEC61000-6-3 and tested lightning impulse current withstand test with counter record of minimum 35KA 8/20 m sec in Govt lab) in Pre-wired metal enclosure with pulverulent body painting including all accessories as per the specifications. Make: Tercel / Ground.	4.00	Job	574999.00	22,99,996.00
12.00	Supply of XLPE insulated and PVC sheathed aluminum conductor armoured power cable of 1.1 KV grade conforming to IS 7098 (Part-I) 1988 as amended upto date and of following size as required:				
12.01	4 X 16 Sq.mm	300.00	Mtr	149.00	44,700.00

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SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
12.02	4 X 25 Sq.mm	500.00	Mtr	179.00	89,500.00
12.03	4 X 35 Sq.mm	400.00	Mtr	189.00	75,600.00
12.04	3.5 X 50 Sq.mm	300.00	Mtr	279.00	83,700.00
12.05	3.5 X 95 sq.mm	300.00	Mtr	479.00	1,43,700.00
12.06	3.5X240 sq.mm	600.00	Mtr	1099.00	6,59,400.00
12.07	3.5X300 sq.mm	1000.00	Mtr	1299.00	12,99,000.00
12.08	Supply of 4CX4.0 Sqmm XLPE insulated and PVC sheathed copper conductor armoured power cable of 1.1 KV grade conforming to IS 7098 (Part-I) 1988 as amended upto date as required	500.00	Mtr	199.00	99,500.00
13.00	SH-II: Installation, Testing, Commissioning of Substation Equipment				
13.01	Installation, Testing and Commissioning of 750 KVA Prime Duty DG Set mentioned at SH-I/Item No.1.01 to 1.08, including laying of fuel pipe lines, fixing of exhaust piping, GSS duct, suitable modification to existing RCC platform to accomodate new DG set with acoustic enclosure, performing 06 Hrs Load test for the DG set at site with available load, laying and termination of control cables for engine control panel, batteries, alternator Sensor scanner to AMF panel installed at First floor etc. complete as required. (Location: ATS Complex Substation - Ground Floor)	2.00	Job	499999.00	9,99,998.00
13.02	Installation, Testing and Commissioning of 415V, 4000 Amps Bus bar rating, LT Non-Essential Panel mentioned at SH-I/Item No.2.01 to 2.14 including provision of 100mm x 50mm x 5mm thick supporting "C" channels, Assembling of LT panel compartments, connection, interconnection, earthing, performing site acceptance test etc. complete as required. (Location: Non-Essential LT Panel at ATS Complex Substation - First Floor)	1.00	Job	449999.00	4,49,999.00
13.03	Installation, Testing and Commissioning of 415V, 2000 Amps Bus bar rating, LT Essential Panel mentioned at SH-I/Item No.3.01 to 3.13 including provision of 100mm x 50mm x 5mm thick supporting "C" channels, Assembling of LT panel compartments, connection, interconnection, earthing, performing site acceptance test etc. complete as required. (Location: Essential LT Panel at ATS Complex Substation - First Floor)	1.00	Job	299999.00	2,99,999.00
13.04	Installation, Testing and Commissioning of 415V, 2000 Amps Bus bar rating, LT AMF Panel mentioned at SH-I/Item No.4.01 to 4.16 including provision of 100mm x 50mm x 5mm thick supporting "C" channels, Assembling of LT panel compartments, connection, interconnection, earthing, performing site acceptance test etc. complete as required. (Location: AMF LT Panel at ATS Complex Substation - First Floor)	2.00	Job	69999.00	1,39,998.00
13.05	Installation, Testing and Commissioning of 415V, 2000 Amps Bus bar rating, LT Hybrid RTPFC Panel mentioned at SH-I/Item No.5.01 to 5.16 including provision of 100mm x 50mm x 5mm thick supporting "C" channels, Assembling of LT panel compartments, connection, interconnection, earthing, performing site acceptance test etc. complete as required. (Location: Hybrid RTPFC Panel at ATS Complex Substation - First Floor)	2.00	Job	99999.00	1,99,998.00



SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
13.06	Installation, Testing and Commissioning of 415V, 2000 Amps Bus bar rating, 1600 A ACB Panel mentioned at SH-I/Item No.6.00 to 6.02 including provision of suitable mounting arrangement, connection, interconnection, earthing, etc. complete as required. (Location: DG Area at ATS Complex Substation - Ground Floor)	2.00	Job	19999.00	39,998.00
13.07	Installation, Testing and Commissioning of 415V, 1000 Amps Bus bar rating, 630 A ACB Panel mentioned at SH-I/Item No.7.01 to 7.03 including provision of suitable mounting arrangement, connection, interconnection, earthing, including dismantling of existing MCCB Panel at AC plant panel area to create space for installation of new ACB Panel, and shifting of dismantled MCCB panel to AAI store etc. complete as required. (Location: AC Plant Panel Area at ATS Complex - Second Floor)	3.00	Job	19999.00	59,997.00
13.08	Installation, Testing and Commissioning of 3200 Amps Indoor & outdoor Sandwich type Bus trunking system consist of straight Run bus duct, End Flange, 90 Degree bend, Offset, T section, phase cross over, Adaptor Box & Copper flexible for End Termination item mentioned at SH-I/Item No.8 including required aluminium interconnection busbars, aluminium external earthing strip including providing suitable size threaded rod & MS angle, nuts & bolts etc. complete as required. (Location: Outdoor Transformer to NE Panel at ATS Complex Substation - First Floor)	25.00	Meter	19999.00	4,99,975.00
13.09	Installation, Testing and Commissioning of 1600 Amps Indoor Sandwich type Bus trunking system consist of straight Run bus duct, End Flange, 90 Degree bend, Offset, T section, phase cross over, Adaptor Box & Copper flexible for End Termination items mentioned at SH-I/Item No.9 including required aluminium interconnection busbars, aluminium external earthing strip including providing suitable size threaded rod & MS angle, nuts & bolts etc. complete as required. (Location: ATS Complex Substation - Ground Floor & First Floor for interconnection of NE Panel, Ess panel and AMF panels))	180.00	Metre	7999.00	14,39,820.00
13.10	Installation, Testing and Commissioning of 415V, 480KA & 240 KA Equipment Level Protection (ELP) power filter mentioned at SH-I /Item No. 10 & 11 including provision of suitable supporting/mounting arrangement, connection, interconnection, earthing, performing site acceptance test etc. complete as required. (Location: CNS Installation at Operational Area)	13.00	Job	49999.00	6,49,987.00
14.00	SH-III : Laying of Cables, Sub Station Safety Equipments and Miscellaneous items				
14.01	Supplying and making straight through joint with heat shrinkable kit including ferrules and other jointing materials for following size of XLPE insulated and PVC sheathed aluminum conductor armoured power cable of 1.1 KV grade as required.				
14.02	4 X 16 Sq.mm	4.00	Set	2999.00	11,996.00
14.03	4 X 25 Sq.mm	4.00	Set	3229.00	12,916.00
14.04	4 X 35 Sq.mm	4.00	Set	3229.00	12,916.00
14.05	3.5 X 50 Sq.mm	4.00	Set	3229.00	12,916.00
14.06	3.5 X 95 sq.mm	4.00	Set	4279.00	17,116.00

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SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
14.07	3.5X 120 Sq.mm				
14.08	3.5X240 sq.mm	4.00	Set	4279.00	17,116.00
14.09	3.5X300 sq.mm	4.00	Set	8169.00	32,676.00
15.00	Supplying and making indoor end termination with brass compression gland and aluminium lugs for following size of XLPE insulated and PVC sheathed aluminum conductor armoured power cable of 1.1 KV grade as required.	4.00	Set	8169.00	32,676.00
15.01	4 X 16 Sq.mm				
15.02	4 X 35 Sq.mm	8.00	Nos.	349.00	2,792.00
15.03	3.5 X 50 Sq.mm	10.00	Nos.	449.00	4,490.00
15.04	3.5 X 95 sq.mm	4.00	Nos.	529.00	2,116.00
15.05	3.5X240 sq.mm	4.00	Nos.	579.00	2,316.00
15.06	3.5X300 sq.mm	9.00	Nos.	1139.00	10,251.00
16.00	Supplying and installing following size of perforated pre-painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc., as required.	18.00	Nos.	1229.00	22,122.00
16.01	300 mm (W) X 62.5 mm (D) X 2.0 mm Thickness				
17.00	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.	150.00	Mtrs	869.00	1,30,350.00
17.01	Up to 35 Sq.mm				
17.02	Above 35 Sq. mm and upto 95 Sq.mm	338.00	Mtr	35.00	11,830.00
17.03	Above 185 Sq. mm and upto 400 Sq.mm	250.00	Mtr	60.00	15,000.00
18.00	Laying and fixing of one number PVC insulated and PVC sheathed/ XLPE power cable of 1.1 KV grade of following size on wall surface/cable tray as required.	595.00	Mtr	150.00	89,250.00
18.01	Up to 35 Sq.mm (clamped with 1 mm thick saddle)				
18.02	Above 35 Sq. mm and upto 95 Sq.mm(clamped with 25x3 mm MS flat clamp)	807.00	Mtr	60.00	48,420.00
18.04	Above 185 Sq. mm and upto 400 Sq.mm(clamped with 40x3 mm MS flat clamp)	250.00	Mtr	70.00	17,500.00
19.00	Supply and Fixing of 10 mm thick SMC chequered plates including provision of 50 x 50 x 5mm thick MS angle in all side and diagonal of SMC plate for strengthening by Aluminium revtting and MS lifting hook etc. complete as required.	675.00	Mtr	250.00	1,68,750.00
		50.00	Sq.Mtr s	8999.00	4,49,950.00

SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
20.00	Supply, fabrication, Transportation and installation of the MS channel/ angle/ flat for cable tray/ unforeseen work including cutting, welding, drilling, fixing, grinding, applying redoxide primer of two coats and two coat of enamel paint of Black colour etc. complete as required. and as per the instructions of Engineer-In-Charge.	1000.00	Kgs	109.00	1,09,000.00
21.00	Earthing with G.I earth plate 600 mmx 600 mm x 6mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/coke and salt as required.	16.00	set	7999.00	1,27,984.00
22.00	Earthing with copper earth plate 600 mmx 600 mm x 3mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/coke and salt as required.	8.00	Set	13999.00	1,11,992.00
23.00	Providing and fixing 50 mm X 5 mm copper strip in 80 mm dia 'B' Class G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer and brassing i/c excavation of bituminous/ concrete / pavement & excavation of Soil to the depth of 0.30 Mtrs from ground, refilling the Soil and with 1:2:4 concrete on top for 0.15 Mtrs after laying Pipe and making good the same to original surface etc. complete as required.	40.00	Mtr.	4199.00	1,67,960.00
24.00	Providing and fixing 50 mm X 5 mm copper strip in 80 mm dia 'B' Class G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer and brassing i/c excavation excavation of Soil to the depth of 0.30 Mtrs from ground, refilling the Soil and and making good the same to original surface etc. complete as required.	30.00	Mtr.	4099.00	1,22,970.00
25.00	Providing and fixing 50 mm X 5 mm copper strip in 80 mm dia 'B' Class G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer and brassing etc. complete as required.	10.00	Mtr.	3999.00	39,990.00
26.00	Providing and fixing 50 mm X 5 mm copper strip in recess including cutting of concrete floor and finishing to original floor and connection with brass nut, bolt, spring, washer and brassing etc. as required.	30.00	Mtr.	3999.00	1,19,970.00
27.00	Providing and fixing earth bus of 50 mm X 5 mm copper strip on surface including connection with brass nut, bolt, spring, washer and brassing for connections etc. as required.	100.00	Mtr.	2799.00	2,79,900.00
28.00	Providing and fixing 50 mm X 5 mm G.I strip in 80 mm dia 'B' Class G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer and brassing i/c excavation of bituminous/ concrete / pavement & excavation of Soil to the depth of 0.30 Mtrs from ground, refilling the Soil and with 1:2:4 concrete on top for 0.15 Mtrs after laying Pipe and making good the same to original surface etc. complete as required.	50.00	Mtr.	1799.00	89,950.00
29.00	Providing and fixing 50 mm X 5 mm G.I Strip in 80 mm dia 'B' Class G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer and brassing i/c excavation excavation of Soil to the depth of 0.30 Mtrs from ground, refilling the Soil and and making good the same to original surface etc. complete as required.	30.00	Mtr.	1699.00	50,970.00

SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
30.00	Providing and fixing 50 mm X 5 mm G.I strip in 80 mm dia 'B' Class G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer and brassing etc. complete as required.	20.00	Mtr.	1799.00	35,980.00
31.00	Providing and fixing 50 mm X 5 mm G.I strip in recess including cutting of concrete floor and finishing to original floor and connection with brass nut, bolt, spring, washer and brassing etc. as required.	30.00	Mtr.	1599.00	47,970.00
32.00	Providing and fixing earth bus of 50 mm X 5 mm G.I strip on surface including connection with brass nut, bolt, spring, washer and brassing for connections etc. as required.	150.00	Mtr.	479.00	71,850.00
33.00	Supply of nominal 2.0 mm thick (Width 1 Mtr) PVC synthetic, electric insulated mats conforming to IS 15652-2006 having Dielectric strength of 30 KV, no adverse effect of mineral oil, high insulation resistance (Minimum 1,00,000 M Ω on wet condition with 5 KV meggar) with yellow coloured bordered reflective Adhesive sticker of width 50mm at borders etc., as required.	150.00	Sq.Mtr	599.00	89,850.00
34.00	Supply of nominal 2.5 mm thick (Width 1 Mtr) PVC synthetic, electric insulated mats conforming to IS 15652-2006 having Dielectric strength of 45 KV, no adverse effect of mineral oil, high insulation resistance (Minimum 1,00,000 M Ω on wet condition with 5 KV meggar) with yellow coloured bordered reflective Adhesive sticker of width 50mm at borders etc., as required.	40.00	Sq.Mtr	699.00	27,960.00
35.00	Dismantling of existing 750 KVA DG Set without acoustic enclosure alongwith AMF Panel from ATS Complex Power House including dismantling of fuel piping, exhaust piping, fuel tank, control cabling, Power cabling, earthing etc. and Handing Over of dismantled materials to AAI Store etc complete as required and as per the instructions of the Engineer-In-Charge. (Location : ATS Complex SS, Southern Region Chennai Airport)	2.00	Job	79999.00	1,59,998.00
36.00	Dismantling of existing LT Panels/bus duct as detailed below including dismantling of Power cabling, earthing etc. and Handing Over of dismantled materials to AAI Store etc. complete as required and as per the instructions of the Engineer-In-Charge. (Location : ATS Complex Substation - First Floor) i) Non Essential Panel - 1 No ii) Essential Panel - 1 No iii) Capacitor Panel - 1 No iv) AMF Panel - 1No v) MLDB(N) 2 - 1 No vi) LDB(N) 7 - 1 No vii) MCC 13 - 1 No viii) MLDB (E) 2 - 1 No ix) LDB (E) 7 - 1 No x) VDB 1.1 - 1 No xi) DCDB - 1 No xii) 110v battery charger - 2 Nos xiii) Existing Aluminium bus duct 3.5 x 2000 Amps capacity xiv) Existing Aluminium bus duct 3.5 x 3200 Amps capacity	1.00	Job	149999.00	1,49,999.00

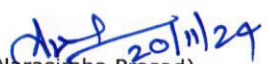


SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
37.00	Supplying and fixing following ways surface/recess mounting, vertical type, 415 volts, TPN MCB Prewired distribution board of sheet steel, dust protected, duly powder painted, inclusive of 250 Amps insulated tinned copper bus bar, shrouded neutral bar, earth bar, din bar for mounting MCBs (without MCCB and MCBs), interconnections, cable end box, etc. as required.				
37.01	12 way (250A MCCB incomer and 36 Modules) Double door, vertical type	1.00	Each	29999.00	29,999.00
37.02	8 way (250A MCCB incomer and 24 Modules) Double door, vertical type	1.00	Each	24999.00	24,999.00
37.03	Supplying and fixing of 200 Amps, 4 Pole ONLOAD change over switch with enclosure (similar to Legrand make Power line, Frame 2, 4 pole change over switch)	1.00	Each	29999.00	29,999.00
37.04	Supplying and fixing of 5A to 32 A rating as per site requirement, four pole, 415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load in the existing MCB DB complete with connections, testing and commissioning etc., as required	17.00	Each	1249.00	21,233.00
37.05	Supplying and fixing of 40A rating, four pole, 415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load in the existing MCB DB complete with connections, testing and commissioning etc., as required	2.00	Each	1999.00	3,998.00
37.06	Supplying and fixing of 63A rating, four pole, 415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load in the existing MCB DB complete with connections, testing and commissioning etc., as required	1.00	Each	1999.00	1,999.00
37.07	Providing and fixing 160A rating, 25 kA breaking capacity, Four Pole MCCB with microprocessor based release and terminal spreaders in existing Distribution Board including drilling holes in distribution board, making connections etc. as required.	2.00	Each	13499.00	26,998.00
38.00	Retrieval of HT/LT cables of different sizes from existing sub-station, including transportation to AAI store, stacking etc., as per the direction of Engineer in Charge complete as required.	1000.00	Mtr	39.00	39,000.00
39.00	Supply and fixing of Galvanised mild steel Fire Bucket Stand with 4 Nos. of Galvanised mild steel fire buckets of 10 litre nominal capacity filled with dry sand conforming IS 2546 etc., complete as required.	6.00	Each	2999.00	17,994.00
40.00	Supply of Rubber Hand Gloves suitable for 11KV grade conforming IEC 60903 and IS 13774 etc., complete as required.	4.00	Pair	649.00	2,596.00
41.00	Supply and fixing of Shock treatment chart of standard size in Three (English, Hindi & Tamil) languages with aluminium frame and transparent polycarbonate cover sheet as required.	15.00	Each	999.00	14,985.00
42.00	Supply of First Aid Box with medicines, accessories as approved by St.John Ambulance Brigade/Indian Red Cross conforming to IS:2217-1963	10.00	Each	2299.00	22,990.00

Ans

SI No	Description of Item	Qty	Unit	Basic Rate [EXCL GST]	Total Amount [with out GST]
43.00	Providing & fixing of Single Line Diagram of substation on 5mm thick Aluminium sheet in A0 Size duly laminated etc., complete as per actual as required.	2.00	Each	9999.00	19,998.00
44.00	Supply of 300mm sweep, metallic exhaust fan of minimum 1400 RPM, suitable for 230 Volt 50 Hz AC supply including all accessories etc. as required.	20.00	Each	2199.00	43,980.00
45.00	Supply of 450mm sweep, metallic exhaust fan, minimum 1400 rpm, suitable for 230 volt 50 HZ Supply including all accessories etc. as required.	6.00	Each	5999.00	35,994.00
46.00	Supply of 400 mm sweep 230V, 50 Hz, Single Phase, 1400 RPM Pedestal fan having air flow capacity of 125W, MS ribs guard for protection and oscillation on off and making the electrical connections with all the accessories required.	15.00	Each	3999.00	59,985.00
47.00	Supply of 400 mm sweep 230V, 50 Hz, Single Phase, 1300-1400 RPM wall mounting fan having power consumption less than 60W, MS ribs guard for protection, pull cord control for speed & oscillation on off and making the electrical connections with all the accessories required.	10.00	Each	2999.00	29,990.00
48.00	Supply of wall mountable portable Rechargeable Emergency LED light with minimum 6 hours backup battery, operating supply of 230V AC, auto ON & OFF etc as required.	25.00	Each	999.00	24,975.00
49.00	Supply of Single/Double sided Red/Green LED Fire EXIT Signage with different direction (quantity of direction sign will be as per site requirment) ceiling mounted type with built in battery back-up with minimum 2 hours, suitable for opertion of 230V, 50Hz AC supply as required.	50.00	Each	2999.00	1,49,950.00
Total Amount (Excl GST)					5,33,38,000.00

(Rupees Five Crores Thirty Three Lakhs and Thirty Eight Thousand Only)


 (A. Narasimha Prasad)
 Senior Manager (E-E)
 AAI, RHQ-SR, Chennai

FORMAT-A

TO BE WRITTEN ON LETTER HEAD OF THE CONCERNED
BUSINESS ESTABLISHMENT / CONCESSIONAIRES.

APPLICATION FOR SECURITY CLEARANCE FOR COMMERCIAL ACTIVITIES IN THE
SECURITY RESTRICTED AREA (SRA) AT THE AIRPORTS

(TO BE SUBMITTED THROUGH REGIONAL DIRECTOR, BCAS OFFICE ONLY)

Letter ref. no. of the company

Date:-----

To

The RD,

Delhi / Mumbai / Kolkata / Chennai / Ahmedabad /

Amritsar / Guwahati / Hyderabad and Imphal. (As applicable)

Sir,

Following documents of our company / firm who intends to operate / is
operating as Business Establishment in SRA at _____ airport
are submitted in duplicate copies for necessary security clearance and
background checks of our company.

- i. Copy of certificate issue by Registrar of companies or any other central
/ state govt. Authority registering the company for similar nature of
work.
- ii. Company's profile giving details of owner / Directors employees
contact addresses (registered office / Branch offices) & telephone no's.
- iii. Copy of latest license fee paid to Airport Director of respective airport.
- iv. Allotment of space to the Business Establishment / Concessionaire by
Airport Operator.
- v. Copy of valid contract / agreement with Airport Operator.
- vi. Any other security clearance from BCAS is obtained earlier, if any;
- vii. Total number of staff required

Further, I undertake that neither me nor any of the firms associate had
been involved / Charged in any criminal case in the past.

Our / My firm have not applied for security clearance through other RD
office, except Present application.

I further declare that all the information pertaining to background checks
of the company given here are true and no relevant fact, is concealed by me /
us.

Yours faithfully,

Sign_____

Name_____

Address_____

Contact Tel No_____

Company Seal:

Annexure-II

Fax No. _____

FORMAT A-1

Name and Address of Company:

Whether Company is Indian, Foreign or JVC:

SI. No.	1	2	3	4
Name (with alias of Owner / Director / Key Persons)				
Nationality of Owner / Director / Key Persons				
DoB of Owner / Director / Key Persons				
Present Address of Owner / Director / Key Persons				
Permanent Address of Owner / Director / Key Persons				
Parentage				
PP. No. (Legible copy to enclose)				
ID Proof (Legible copy to enclose)				
Shareholding pattern of the company FDI, if any				

I _____ hereby undertake that all the above particulars and Information are true and best of my knowledge and belief.

Signature
(Name)